

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 4, 6, 8-13, 15, 16, 18, 19, 21 and 27-29, cancel claims 2, 3, 7, 14, 17, 20 and 22-26 without prejudice, and add new claims 30-38 such that the status of the claims is as follows:

1. (Currently amended) A combined long and short distance wireless communication system comprising:

- a dual distance terminal for providing subscribers with long and short distance communication services;
- at least one remote distance base station for providing remote distance wireless access for said dual distance terminal;
- at least one short distance access point (AP) for providing short distance wireless access for said dual distance terminal; and
- a dual distance network server for connecting said at least one remote distance base station through and said at least one short distance AP to execute network switching for said dual distance terminal and enabling said dual distance terminal to access the network to which it is switched, storing data that may be missed during switching, and sending the stored data to said dual distance terminal after said terminal switching is completed.

2-3. (Canceled)

4. (Currently amended) A dual distance server used for a combined long and short distance wireless communication system as claimed in claim 1, comprising:

- a data service function entity for detecting whether or not the occurrence of a long and short distance data transmission is, if it is, then providing a connection service for said data transmission;
- a memory function entity for storing data that may be missed ~~at the time of~~ during

switching, and sending the stored data to a dual distance terminal via said data service function entity after said ~~terminal~~ network switching is completed, ~~in order to implement seamless switch for the terminal between a long distance communication network and a short distance communication network;~~

- a dual distance home server for registering the dual distance ~~character~~ communication parameters of the dominated dual distance terminals, obtaining ~~terminal~~ network switch information via said data service function entity ~~when in the case where~~ dual distance switch occurs, updating the ~~terminal~~ data[[:]] of the dual distance terminal, and informing said data service function entity of ~~terminal-related~~ dual distance terminal information when a query regarding the terminal exists; and
- an external network interface unit for connecting dual distance network and an interface of an external network.

5. (Original) The dual distance server according to claim 4, wherein said external network interface comprises a wireless interface, an interface for wire network, and an interface for other wireless networks.

6. (Currently amended) A dual distance terminal used for a combined long and short distance wireless communication system as claimed in claim 1, comprising:

- a short distance communication function entity having a short distance radio frequency function module for functioning as physical layer, part of MAC layer or link layer and operating in a short distance communication network to obtain data information;
- a long distance communication function entity having a long distance radio frequency function module for functioning as physical layer and part of link

layer;

a network switch condition judging function entity for performing network switching for the dual distance terminal based on the ~~corresponding~~ dual distance switch condition and instructing the short distance communication function entity or the long distance communication function entity to send a beacon signal to the dual distance network server;

a data management and buffering function entity for storing data that may be missed during switching, and sending the stored data to a common function entity in the high level of the dual distance terminal after said network switching is completed; and

a common function entity for implementing display~~and~~, input and output functions of the terminal.

7. (Canceled)

8. (Currently amended) A wireless communication method using combined long and short distance wireless communication systems, comprising steps:

detecting a dual distance terminal to determine whether it is located in a service area covered by a short distance access point~~upon powering on~~;

entering a short distance communication network through the short distance access point if in the case where the dual distance terminal is located within the service area covered by the short distance access point, and informing a dual distance home server of the position of the dual distance terminal;

searching for a base station for a long distance communication service if the dual distance terminal is not located in the area covered by any one of the short distance access points, entering a long distance communication network through a base station for a long distance access-network communication

service, and informing the dual distance home server of the position of the dual distance terminal[.];

switching between a long distance communication network and a short distance communication network when the dual distance terminal enters the short distance network service area from the long distance network service area, or enters the long distance network service area from the short distance network service area, and
storing data that may be missed during switching, and sending the stored data to a dual distance terminal via said data service function entity after said network switching is completed.

9. (Currently amended) The wireless communication method according to claim 8, further comprising the ~~steps~~ step of if when the dual distance terminal detects that a wireless local area network (WLAN) exists ~~and does not require authority identification at present, in the short distance network~~, the dual distance terminal then accesses the WLAN network ~~directly, if the result of the detection indicates that current WLAN network requires authority identification, the dual distance terminal then performs access authority identification via WLAN network, and if the authority identification is successful, the dual distance terminal accesses current WLAN network~~; the dual distance terminal continues the detection and enters into the long distance ~~GRPS communication~~ network ~~if the authority identification in the case where the entrance into the WALN network is unsuccessful.~~

10. (Currently amended) The wireless communication method according to claim 9, further comprising the step of the dual distance terminal performs data transmission by accessing the dual distance server via the short distance WLAN network ~~after~~ in the case where the dual distance terminal enters into the short distance WLAN network.

11. (Currently amended) The wireless communication method according to claim 9 or 10, further comprising the ~~steps of switching from the short distance communication network to the long distance communication network immediately before the dual distance terminal moves out of the short distance WLAN network and enters into the GPRS network; the dual distance terminal makes judgment by using switching conditions; step of the dual distance terminal terminates data transmission through a short distance radio frequency function entity and activates a long distance communication function entity and performs the sequent data transmission~~ if a predetermined threshold for the switching is satisfied, the dual distance terminal terminates data transmission through a short distance radio frequency function entity with the switching conditions, and activates a long distance communication function entity and uses it to implement the possible sequent data transmission during the dual distance terminal moves out of the short distance WLAN network and enters into the long distance network so that network switch is completed.

12. (Currently amended) The wireless communication method according to claim 11, wherein the predetermined threshold for the switching condition is a non-usable threshold of a short distance communication network signal or a non-optimal threshold of a short distance communication network signal.

13. (Currently amended) The wireless communication method according to claim 11, further comprises the steps of in the case where ~~wherein during the process of switching from the short distance communication network to the long distance communication network, if the dual distance terminal requests seamless switching from the short distance network to the long distance network~~ based on its service level, the dual distance terminal terminates data transmission through the short distance radio frequency function entity the dual distance terminal and sends a beacon signal ~~for switching between the short distance communication network and the long distance communication network to the short distance AP from which is switched through the short distance communication function entity in the terminal while it terminates the data being transmitted by the WLAN radio~~

~~frequency function entity~~, the beacon signal is then transmitted to the dual distance network server by the short distance AP; ~~after receiving the corresponding beacon signal~~, the dual distance network server informs the long distance communication function entity to be accessed by the dual distance terminal of the receipt, and determines the service queue position which the dual distance terminal is arranged in the long distance network function entity based on its service level.

14. (Canceled)

15. (Currently amended) The wireless communication method according to claim 8, further ~~comprising the steps of switching from the long distance communication network to the short distance communication network immediately before the dual distance terminal moves out of the long distance communication network and enters into the short distance WLAN network; the dual distance terminal makes judgment by using switching conditions; if a predetermined threshold of the switching is satisfied, the dual distance terminal terminates data transmission through a long distance radio frequency function entity with the switching conditions, and activates a short distance communication function entity and uses it to implement the possible sequent data transmission~~ comprise the step of the dual distance terminal terminates data transmission through a long distance radio frequency function entity and activates a short distance communication function entity and performs the sequent data transmission if a predetermined threshold for the switching is satisfied during the dual distance terminal moves out of the long distance WLAN network and enters into the short distance network so that network switch is completed.

16. (Currently amended). The wireless communication method according to claim 15, ~~wherein if the further comprises the steps of in the case where the dual distance terminal requests seamless switching from the long distance communication network to the short distance communication WLAN network based on its service level, when terminating the data being transmitted by the long distance communication function entity, the dual distance terminal further sends one beacon signal~~

~~of long and short distance switching to the long distance service function entity from which is switched through the base station and the long distance network function entity in the dual distance terminal, the beacon signal is transmitted to the dual distance network server by the long distance network function entity, and after receiving the corresponding beacon signal, the dual distance network server informs the short distance communication function entity of the receipt, and determines the priority of the dual distance terminal in the short distance communication network function entity based on its service level. the dual distance terminal terminates data transmission through the long distance radio frequency function entity and sends a beacon signal to the long distance network function entity from which is switched through the long distance communication function entity in the terminal, the beacon signal is then transmitted to the dual distance network server by the long distance communication function entity, the dual distance network server informs the short distance communication function entity to be accessed by the dual distance terminal of the receipt, and determines the service queue position which the dual distance terminal is arranged in the short distance network function entity based on its service level.~~

17. (Canceled)

18. (Currently amended) The wireless communication method according to claim 9 or 10, ~~wherein the further comprises the step of~~ when the dual distance terminal moves from one short distance cell to another short distance cell, the dual distance terminal identifies the short distance AP access point to which it enters, and sends the cell information to the dual distance network server, ~~thereby implementing to perform~~ the switching between the short distance cells.

19. (Currently amended) The wireless communication method according to claim 18, further comprises ~~the step of when one dual distance terminal moves from one short distance cell to another short distance cell, the dual distance terminal informs the home server among the dual distance network servers that it has already entered in the area covered by said another short distance~~

~~communication network, and the home server is in charge of the query and communication to it from the other terminals in the network.~~ when the dual distance terminal moves from one short distance cell to another short distance cell, the dual distance terminal informs the home server among the dual distance network servers that it has already entered in said another short distance cell, and the home server manages the query and communication to it from the other terminals in the network.

20. (Canceled)

21. (Currently amended) The wireless communication method according to claim ~~20~~31, wherein the detection for candidate networks with non-periodically activating the corresponding radio frequency function entity is carried out by using a viable-step detection method which the time interval of finally finding the occurrence of other networks is used as a function.

22-26. (Canceled)

27. (Currently amended) The wireless communication method according to claim ~~26~~8, wherein the process of the dual distance server cooperating with the dual distance terminal to perform the switch comprises:

first step: detecting the dual distance beacon signal of the dual distance terminal by the long (or short) distance network function entity, ~~checking whether a switching occurs, if it is not, then the detection is repeated, if it is yes, the flow turns to next step~~ to determine whether or not a switching occurs;

second step: updating the subscriber information registered in the dual distance home register;

third step: determining whether or not data transmission occurs, if it is not, the ~~flow~~ process returns to the first step;

fourth step: determining whether or not there exists a need for seamless switching,

if it is not, the ~~flow~~ process returns to the first step;
fifth step: buffering the transmitted data, and forwarding the buffered data to the dual distance terminal after the switch is completed.

28. (Currently amended) The wireless communication method according to claim ~~15~~ 15, wherein when the dual distance terminal located in the long distance network requests to enter any one of the service areas covered by the short distance ~~APs~~ access points, ~~if the AP within the area rejects the access of the dual distance terminal due to security or other issues and the dual distance terminal can not access the short distance network~~, then the dual distance terminal still operates the long distance communication.

29. (Currently amended) The wireless communication method according to claim 8, wherein the subscriber ~~may define~~ defines the priority levels of the switching in advance as desired so that the dual distance terminal performs automatic switching.

30. (New) The wireless communication method according to claim 8, wherein said step of detecting a dual distance terminal to determine whether it is located in a service area covered by a short distance access point further comprises:

the dual distance terminal keeps the long distance and the short distance radio frequency entity in operating state, and detects the long distance or short distance communication network environment in real-time, feeds the detected results back to the dual distance terminal switching management mechanism, reports the detected results to the dual distance network server through the existing network periodically or as desired.

31. (New) The wireless communication method according to claim 8, wherein said step of detecting a dual distance terminal to determine whether it is located in a service area covered by a short

distance access point further comprises:

the dual distance terminal keeps the radio frequency function entity corresponding to the network in which it locates in operating state, and activates the radio frequency function entities for the other networks periodically or non-periodically to detect the candidate networks.

32. (New) The wireless communication method according to claim 8, wherein said step of detecting a dual distance terminal to determine whether it is located in a service area covered by a short distance access point further comprises:

the dual distance terminal keeps the radio frequency function entity corresponding to the network in which it locates in operating state, and does not detect the other networks until the existing network is not available.

33. (New) The wireless communication method according to claim 8, wherein said predetermined conditions for the switching refers to switch the dual distance terminal to a network with higher priority level in the case where the network with higher priority level exists.

34. (New) The wireless communication method according to claim 8, wherein said predetermined conditions for the switching refers to switch dual distance terminal to other networks only when the currently used wireless network signals can not be received.

35. (New) The wireless communication method according to claim 11, wherein said predetermined conditions for the switching refers to switch the dual distance terminal to a network with higher priority level in the case where the network with higher priority level exists.

36. (New) The wireless communication method according to claim 11, wherein said predetermined conditions for the switching refers to switch dual distance terminal to other networks only when the currently used wireless network signals can not be received.

37. (New) The wireless communication method according to claim 13, wherein said predetermined conditions for the switching refers to switch the dual distance terminal to a network with higher priority level in the case where the network with higher priority level exists.

38. (New) The wireless communication method according to claim 13, wherein said predetermined conditions for the switching refers to switch dual distance terminal to other networks only when the currently used wireless network signals can not be received.